



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/592,483 | 06/09/2000 | Robert Cazier | 10001921-1 | 4343 |

22879 7590 12/03/2003

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

MOE, AUNG SOE

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2612

DATE MAILED: 12/03/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/592,483

Applicant(s)

CAZIER ET AL.

Examiner

Aung S. Moe

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: .

Art Unit: 2612

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Katoh et al. (U.S. 5,796,430).

Regarding claim 1, Katoh '430 discloses a digital imaging system (Fig. 14) comprising: a photodetector (i.e., the solid state image sensor 1404); an analog-to-digital converter to convert the dark current (i.e., col. 4, lines 25-30) from the photo detector (i.e., noted the A/D converter 1406, and col. 7, lines 25+); a processor (i.e., the element 1407) that measures the dark current and control the temperature of the photo detector, based on the dark current measurement (i.e., see col. 7, lines 25- col. 8, lines 15).

Regarding claim 5, See the Examiner's comment with respect to claim 1 above.

Regarding claim 9, Katoh '430 discloses the step of measuring the dark current of the photo-sensor (1404) at a known temperature and storing the measured dark current for later use

Art Unit: 2612

(i.e., noted that the dark currents stored in the memory 1410 are based on the known temperature; see col. 7, lines 45+).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2612

4. Claims 2-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh '430 in view of Levine (U.S. 4,562,473).

Regarding claims 2-3 and 7, although Katoh '430 show the use of solid-state imager (i.e., see Fig. 14), Katoh '430 does not explicitly state that the solid-state imager may be either a CCD sensor or a MOS sensor.

However, the solid-state imaging sensors are obviously known in the art as either a CCD sensor or MOS sensor as evidenced by Levine '473 (i.e., see col. 5, lines 10+). Since it was obviously well known in the art to use a CCD sensor or a MOS sensor as suggested by Levine '473, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the known CCD sensor or MOS sensor as taught by Levine '473.

Regarding claims 4 and 6, although Katoh '430 show a control of the temperature of the digital imaging system as discussed above, Katoh '430 does not explicitly show that the control of the temperature is done by altering the performance of at least one heat generating component of the imaging system.

However, Levine '473 teaches that the imager (10) is normally generating heat, thus, in order to control the temperature of the imaging system, the heat generating component of the imaging system (10) is altered by providing a thermoelectric cooler (18) so that the temperature change of the imaging system is compensated (i.e., col. 3, lines 5-68).

In view of the above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Katoh '430 as taught by Levine '473 so

Art Unit: 2612

that the temperature change of the imaging system is compensated, thereby the picture quality is improved.

Regarding claim 8, the combination of Katoh '430 and Levine '473 shows the step of converting the dark current measurement into temperature information (i.e., noted from the teaching of Levine '473, that the dark current V_{dark} is used to control the temperature of the imaging system, thus, the dark current must be obviously converted to the temperature information to control the temperature of the imaging system, thus, it would have been obvious to modify the system of Katoh '430 as taught by Levine '473, and claim 8 is rejected for the same reason as discussed above).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Cazier '647, Levine '946, Itakura '598 and Hieda '453 showed an imaging system for correcting the dark current thereof.

Art Unit: 2612

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Aung S. Moe** whose telephone number is (703) 306-3021. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wendy Garber**, can be reach on (703) 305-4929.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:


(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the customer service number (703) 306-0377.

A. Moe

November 28, 2003


AUNG MOE
PRIMARY EXAMINER